

10/553214

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Docket No.: 4710-0122PUS1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Masanao KAMEI et al.

Application No.: NEW

Confirmation No.:

Filed: October 13, 2005

Art Unit: N/A

For: ORGANOPOLYSILOXANE HAIR
TREATMENT AGENT AND HAIR
COSMETIC CONTAINING THE
TREATMENT AGENT

Examiner: Not Yet Assigned

LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The PTO is requested to use the amended sheets/claims attached hereto (which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)) during prosecution of the above-identified national phase PCT application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §1.16 or 1.14; particularly, extension of time fees.

Application No.: NEW

Docket No.: 4710-0122PUS1

Dated: October 13, 2005

Respectfully submitted,

By: 

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Attachment(s)

Amendment

(Under the Article 11 of the Japanese Law Concerning the International Application of the Patent Cooperation Treaty and Related Matters)

Date of Receipt: 25.2.2005

To: the Director of the Japanese Patent Office

1 Application: PCT/JP03/04705

2 Applicants :

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4 Amended Sheets:

Claims, Specification

5 The following amendments are made as seen in the annexed sheets.

(1) In claim 1, the phrase, "which group may be bonded to a silicon atom in the formula (1) via a group having a carbon atom, silicon atom, or a carbon and a silicon atoms" is amended to "which group is bonded to a silicon atom in the formula (1) directly or via at least a silicon atom."

(2) According to the above amendment of claim 1, page 4 of the specification is amended.

(3) According to the above amendment of claim 1, page 6 of the specification is amended.

6 Lists of the Annexed Sheets:

- (1) Claims, page 41
- (2) Page 4 and page 7

Response to the Written Opinion

Date of submission 25.2.05

To: The Director of The Japanese Patent Office

1 Application: PCT/JP03/04705

2 Applicants :

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4 Date of the Written Opinion: 28.12.2004

5 Remarks

(1) The following opinion was presented in the Written Opinion:
The formula (1) representing a polyhydric alcohol-modified silicone described in the cited reference 1 encompasses the present organopolysiloxane of the formula (1). The reference also discloses a hair cosmetic. Therefore, the inventions of set forth in the present claims 1,2,4,9-26 are not novel or unobvious over the reference 1. The inventions set forth in the present claims 5-8 are not disclosed in the reference 1, but they are obvious over the reference 1.

Reference 1: EP 121316 A2

(2) The applicant made the following amendment in claim 1 by submitting an amendment together with this response.

"R² is a group having at least one hydroxyl group or alkoxy group having 1 to 6 carbon atoms, said R² is bonded to a silicon atom in the formula (1) directly or via at least a silicon atom"

(3) The above amendment is base on the description in the original claim 1, "which group may be bonded to a silicon atom in the formula (1) via a group having a carbon atom, a silicon atom, or a carbon and a silicon atoms" and the description in the specification, page 7, lines 3-5, "The substituent group may be bonded to a silicon atom in the organopolysiloxane of the formula (1) directly."

(4) In the organopolysiloxane described in the reference 1, OH group or OR group is bonded to the Si atom via a carbon atom(claim 1, formula (3), [0015] and [0016]). That is, they exist as C-OH group and C-OR group, respectively.

In contrast, OH group or OR group in the present amended claim 1 exist as Si-OH group and Si-OR group, wherein R is an alkyl group, respectively.

Therefore, the amended claim 1 is novel over the reference 1.

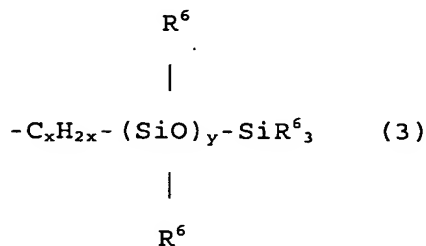
(5) The hair cosmetic of the present invention is characterized by forming a durable film on the hair to provide the hair with easiness to comb and gloss(specification, page 40, lines 12-14). It is considered that the film is formed by hydrolysis and then self-crosslinking of the aforesaid Si-OH group or Si-OR group.

The reference 1 teaches utilizing emulsifying capability of C-OH group or C-OR group to thereby improve compatibility with a silicone oil. Based on this teaching, the aforesaid feature of the present invention could not have been conceived.

(6) Therefore, the present invention is not obvious over the reference 1.

R^2 is a group having at least one hydroxyl or alkoxy group having 1 to 6 carbon atoms and is bonded to a silicon atom in the formula (1) directly or via at least a silicon atom,

R^3 is a silicone compound residue represented by the formula
5 (3)



10

, wherein R^6 is a group selected from the group consisting of alkyl groups having 1 to 30 carbon atoms, alicyclic groups, aryl groups, aralkyl groups, and fluorinated alkyl groups,

each of the groups, R^1, R^2, R^3, R^4, R^5 and R^6 , if a plurality thereof
15 exist in a molecule, being the same with or different from each other,

a, b and c each is a number with $1.0 \leq a \leq 2.5$, $0.001 \leq b \leq 1.5$, and $0.001 \leq c \leq 1.5$,

d, e and f each is an integer with $0 \leq d \leq 15$, $0 \leq e \leq 50$, and $0 \leq f \leq 50$,

20 x is an integer with $1 \leq x \leq 5$, and y is an integer with $0 \leq y \leq 500$.

Preferred organopolysiloxane represented by the formula (1) is as follows:

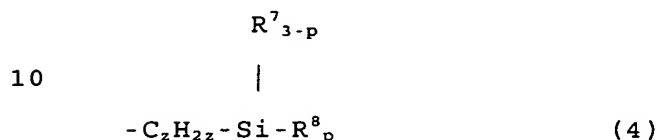
R^1 is an alkyl group, a fluorinated alkyl group each having 1
25 to 6 carbon atoms, or a group represented by the formula, $-C_3H_6O-1-(C_3H_6O)_fR^4$, wherein R^4 is an alkyl group having 7 to 30 carbon atoms and f is an integer with $0 \leq f \leq 50$,

R^2 is an organic group represented by the following formula (4)

AMENDED SHEETS

R^2 is an organic group having at least one substituent group selected from a hydroxyl group and alkoxy groups having 1 to 6 carbon atoms such as methoxy, ethoxy, and isopropoxy groups. R^2 is bonded to a silicon atom in the organopolysiloxane of the formula (1) directly or via at least a silicon atom.

Preferred R^2 is represented by the following formula.



In the formula (4), R^7 is a group selected from the group consisting of alkyl groups having 1 to 30 carbon atoms, alicyclic groups, aryl groups, aralkyl groups and fluorinated alkyl groups; R^8 is an hydroxyl group or an alkoxy group having 1 to 6 carbon atoms; and z is an integer of from 1 to 5, preferably 2.

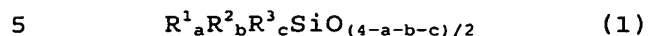
In the formula (4), p is an integer of from 1 to 3, preferably 2 or 3, so that the group, $-SiR^{7}_{3-p}R^8_p$, is a dimethylethoxysilyl group, a diethoxymethylsilyl group or a triethoxysilyl, for example, among which a triethoxysilyl group is more preferred.

These groups may be bonded to an organopolysiloxane chain by an addition reaction of a Si-H group of the organopolysiloxane with vinyltrichlorosilane, vinyltris (β -methoxyethoxy) silane, vinyltrimethoxysilane or vinyltriethoxysilane.

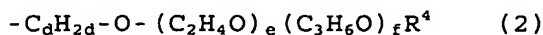
AMENDED SHEETS

CLAIMS

1. (Amended) An organopolysiloxane hair treatment agent (A) represented by the following formula (1),



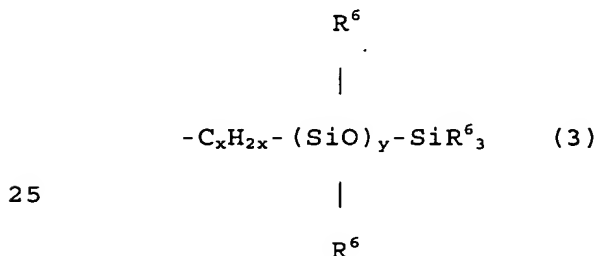
wherein R^1 is an organic group selected from the group consisting of alkyl groups having 1 to 30 carbon atoms, alicyclic groups, aryl groups, aralkyl groups, fluorinated alkyl groups and an
10 organic group represented by following formula (2),



wherein R^4 is an alkyl group having 1 to 30 carbon atoms, provided that, when $d=e=f=0$, said alkyl group has 7 to 30 carbon atoms, or an organic group represented by the formula,
15 $R^5-(CO)-$, wherein R^5 is an alkyl group having 1 to 30 carbon atoms,

R^2 is a group having at least one hydroxyl group or alkoxy group having 1 to 6 carbon atoms, said R^2 is bonded to a silicon atom in the formula (1) directly or via at least a silicon atom,

20 R^3 is a silicone compound residue represented by the following formula (3),



wherein R^6 is a group selected from the group consisting of alkyl groups having 1 to 30 carbon atoms, alicyclic groups, aryl groups, aralkyl groups, and fluorinated alkyl groups, if two or more of
30 the group R^1, R^2, R^3, R^4, R^5 or R^6 , respectively,

AMENDED SHEETS